

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kerry Kulowski, et al. Examiner: Epperson, Jon D.
Serial No. 10/082,661 Art Unit: 1639
Filed: February 20, 2002 Docket No. 1221.001US1
Title: BIOCATALYSTS AND METHOD THEREFOR

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MAIL STOP AMENDMENT
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Amendment and Communication In Response to Non-Final Rejection
Under 37 CFR 1.111

Dear Sir:

This Amendment and Communication is being filed in Response to the Office
Action mailed on September 2, 2003.

CERTIFICATION OF FILING RESPONSE: The undersigned hereby certifies that this Transmittal Letter and the paper, as described herein, are being faxed to 703.872.9306, the facsimile number indicated on the Office Action on Page 23, addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on ~~January 20~~, 2004.

February 2,

Mark A. Litman
Name


Signature

ELECTION OF INVENTIONS

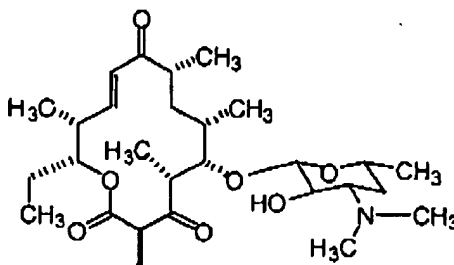
Applicants confirm their previous election, without traverse, of claims 1-9 and 17-19 for examination on the merits.

Election of Distinct Species for Purpose of Examination

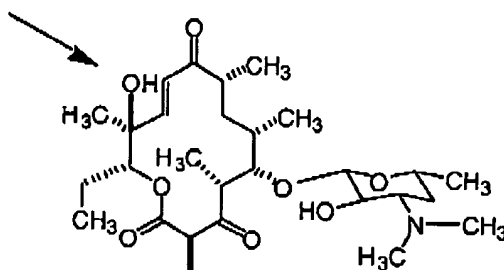
In accordance with the general outline of species within broader groups identified by the Examiner, Applicants confirm their election, solely for the purpose of examination and not with any acknowledgment of separate or distinct species, the following subgroups within the claims of Group I. The claims directed to these subspecies and a single claim embodying these narrowed subspecies is also provided.

Applicants, in accordance with the above limitations identify the following subspecies for examination:

1. Subspecies 1, Species of Host Cell: *Streptomyces lividans*
2. Subspecies 2, Species of biotransformation Gene: PikC
3. Subspecies 3, Species of Number of Biotransformation Genes Into the Host Cell: Applicants identify and elect the substitution of three genes, with gene 1 replaced with desVII, gene 2 replaced with pikC, and gene 3 replaced with desR.
4. Subspecies 4, Species of Chemical Substrate: Applicants select narbomycin structure, the glycosylated macrolide represented by the following formula:



5. Subspecies 5, Species of Biocatalyst: Applicants identify monooxygenase (the pikC enzyme) as this subspecies.
6. Subspecies 6, Number of Catalysts: As indicated in 3 (above), Applicants identify the following specific series of biocatalysts for examination on the merits:
 - Glycosyltransferase (desVII enzyme);
 - Monooxygenase (PikC enzyme); and
 - Glycosidase (desR enzyme)
7. Subspecies 7, Species of Chemical Functional Groups: The pikromycin structure shown below, the hydroxylated narbomycin structure, is elected for purposes of examination:



8. Subspecies 8, Species of Reactions: hydroxylation is the species of reaction chosen.
9. Subspecies 9, Species of Functional Group Added: The functional group added will be selected as a hydroxyl group (indicated by above arrow).
10. Subspecies 10, Species of Method Steps: The single species of method steps selected is the transformation of *Streptomyces* protoplasts.

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OFFICIAL**MAIL STOP AMENDMENT**

Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

The following documents are hereby submitted:


- ☒ Amendment and Response to Restriction Requirement (19 pages)
☒ Transmittal Sheet

If an additional fee is required due to changes to the claims, the fee has been calculated as follows:

CLAIMS AS AMENDED						
	(1) Claims Remaining After Amendment		(1) Highest Number of Claims Previously Paid For	(3) Present Extra	Rate	Fee
TOTAL CLAIMS	11	-	20	0	x 9.00 =	\$00.00
INDEPENDENT CLAIMS	2	-	3	0	X 42.00 =	\$00.00
[] MULTIPLE DEPENDENT CLAIMS PRESENTED						\$00.00
TOTAL						\$00.00

Please consider this a PETITION FOR EXTENSION OF TIME for sufficient number of months to enter these papers if an additional extension of time is deemed necessary by the Office. Authorization is hereby given to charge Deposit Account Number 50-1391 if such additional extension is necessary.

MARK A. LITMAN & ASSOCIATES, P.A.
 York Business Center, Suite 205, 3209 W. 76th St.
 Edina, MN 55435 (952-832-9090)

By: 
 Atty: Mark A. Litman
 Reg. No. 26,390

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Mark A. Litman
 Name


 Signature